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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/944,553	08/30/2001	Michael L. Frank	10010472-1	3086

7590 06/14/2002

AGILENT TECHNOLOGIES
Legal Department, 51U-PD
Intellectual Property Administration
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EXAMINER

NGUYEN, KHAI M

ART UNIT PAPER NUMBER

2819

DATE MAILED: 06/14/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/944,553

Applicant(s)

FRANK, MICHAEL L.

Examiner

Khai M. Nguyen

Art Unit

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ME

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The application has not been checked to the extent necessary to determine the presence of all possible typographical and grammatical errors. However, Applicant's cooperation is requested in correcting any errors of which he/she may become aware in the application.

Drawings

2. This application has been filed with informal drawings which are acceptable for examination purposes only. Formal drawings will be required when the application is allowed.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-3, and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Izumiyama (US 5,705,960).

Regarding claim 1, Izumiyama discloses (see fig. 3 and column 5, lines 39-41) a component comprising that the first structure (7a, 7b) and the second structure (6) of the claimed invention.

Regarding claim 2, Izumiyama discloses (see fig. 3 and column 5, lines 39-41) that the balun (7a, 7b) is for one of moving a signal from a differential form to a single ended form and moving a signal from a single ended form to a differential form.

Regarding claim 3, Izumiyama discloses the claimed invention (see fig. 1 and column 2, lines 13-16).

Regarding claim 13, Izumiyama discloses (see fig. 3 and column 5, lines 39-41) a component comprising that the filter (6) and the balanced to unbalanced circuit (7a, 7b) of the claimed invention.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 4-12 and 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Izumiyama (US 5,705,960) in view of Einbinder (US 5,361,050) and Imbornone et al. (US 6,137,376).

Regarding claims 4-8, and 12, Izumiyama teaches (see fig. 1) a balanced-to-unbalanced converting circuit comprising the main elements/features of the claimed invention except for pointing out a particular kind of filter as recited in the claims. It would have been obvious to one person having ordinary skill in the art at the time the

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invention was made to implement the circuit as taught by the reference with different kind of filters such as band pass filter or a surface acoustic wave filter or the like for the purpose of reducing unnecessary spurious signal as suggested at column 2, lines 3-16.

Regarding claims 9-11, Izumiyama teaches (see fig. 1) a balanced-to-unbalanced converting circuit comprising the main elements/features of the claimed invention except for pointing out a particular kind of balun as recited in the claims.

Einbinder teaches (see fig. 3 and column 3, lines 13-23) a component comprising at least two elements for performing impedance transforming at the input and output ports (column 2, lines 55-69) and a balun that is implemented with at least two transmission lines, inductor, and capacitors.

Therefore, it would have been obvious to one person having ordinary skill in the art at the time the invention was made to incorporate these teaching references to improve the performance of a component in RF parts of radio receivers or transmitters (column 5, lines 6-10).

Regarding claims 14-15, Izumiyama discloses that the component of claim 13 except for the connections between the filter and the balun (see fig. 3 and column 5, lines 39-41). Imbornone et al. discloses a component comprising a first stage and a second stage. The first stage is a filter (30) and the second stage is a balun (fig. 3: 12, 13, 14). It would have been obvious to one person having ordinary skill in the art at the time the invention was made to incorporate the teaching references for reducing the flow of current in ground circuits (column 2, lines 47-49).

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Regarding claim 16, Izumiyama teaches (see fig. 1) a balanced-to-unbalanced converting circuit comprising the main elements/features of the claimed invention except for pointing out the balun including inductors and capacitors and a particular kind of filter being used and as recited in the claims. It would have been obvious to one person having ordinary skill in the art at the time the invention was made would know that the balun is a transformer and normally comprises inductors and/or capacitors and to implement the circuit as taught by the reference with different kind of filters such as band pass filter or a surface acoustic wave filter or the like for the purpose of reducing unnecessary spurious signal as suggested at column 2, lines 3-16.

7. Claims 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Izumiyama (US 5,705,960) in view of Yeh et al. (US 5,164,690) and Imbornone et al. (US 6,137,376).

Regarding claim 17, Izumiyama teaches (see fig. 1) a balanced-to-unbalanced converting circuit comprising a filter integrated with a balun that includes a single ended and differential port. The reference does not explicitly teach the filter having a differential input port and a differential output port. Yeh et al. teaches an analogous device that comprises a filter with a differential input port and a differential output port (see fig. 4).

Regarding claims 18-19, Izumiyama discloses that the component of claim 13 except for the connections between the filter and the balun (see fig. 3 and column 5, lines 39-41). Imbornone et al. discloses a component comprising a first stage and a second stage. The first stage is a filter (30) and the second stage is a balun (fig. 3: 12, 13, 14). It would have been obvious to one person having ordinary skill in the art at the time the invention was made to incorporate the teaching references for reducing the flow of current in ground circuits (column 2, lines 47-49).

Regarding claim 20, Izumiyama teaches (see fig. 1) a balanced-to-unbalanced converting circuit comprising the main elements/features of the claimed invention except for pointing out the balun including inductors and capacitors and a particular kind of filter being used and as recited in the claims. It would have been obvious to one person having ordinary skill in the art at the time the invention was made would know that the balun is a transformer and normally comprises inductors and/or capacitors and to implement the circuit as taught by the reference with different kind of filters such as band pass filter or a surface acoustic wave filter or the like for the purpose of reducing unnecessary spurious signal as suggested at column 2, lines 3-16.

Prior Art

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclose.

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Ralph (US 5,534,830), Vendelin (US 3,571,722), Izumiyama (US 5,705,960), Petrovic (US 6,215,374), Jones (US 5,781,078), Mourant et al. (US 6,396,362), Imbornone et al. (US 6,137,376), Bardal (US 5,757,248), Einbinder (US 5,361,050), Yeh et al. (US 5,164,690), and Sadhir (US 5,428,840) disclose relevant art to the claimed invention.

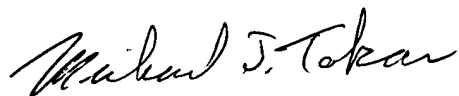
Contact Information

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khai M. Nguyen whose telephone number is 703-605-4244. The examiner can normally be reached on 8:30 to 5:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael J Tokar can be reached on 703-305-3493. The fax phone numbers for the organization where this application or proceeding is assigned are 703- 308-7724 for regular communications and 703-308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-6789.

KN
June 10, 2002


Michael Tokar
Supervisory Patent Examiner
Technology Center 2800